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ABSTRACT

In a series of studies over the past several years, the authors have examined the extent of psychological misconceptions, their strength, sources, and various factors that may contribute to reducing these, including individual differences. Generally, introductory psychology students come into the course with many popular misconceptions. These misconceptions most commonly originate primarily from media sources, personal past experiences, and from previous classes. This presentation provided details about specific sources about this year's top 10 media-based misconceptions and concluded with some advice on an effective technique used in the classroom to dispel misconceptions. (GCP)

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Media Influences on the Formation of Misconceptions about Psychology

by
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Media Influences on the Formation of Misconceptions about Psychology

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Misconceptions regarding scientific 'facts' and information have been demonstrated across many disciplines, with many studies focusing their efforts on the 'hard sciences' (Committee on Undergraduate Science Educations, 1997). As has been pointed out in studies of the hard sciences, such misconceptions frequently interfere with the correct learning of subsequently presented information.

Since the early 20th century researchers have documented that psychology presents no exception to this finding (Garrett & Fisher, 1926 and Valentine, 1936). In psychology, in particular, we are faced with constantly emerging new misconceptions born of the popular media and press (c.f., the Mozart effect, the necessity of self-esteem for success, or men are from Mars and women are from Venus). Sometimes these are so new, there may be no scientific evidence to contradict them. At other times, the scientific evidence is only recently accumulating (c.f., the Mozart effect, or sugar causes hyperactivity in children). Other misconceptions in psychology, much like in

the physical sciences, reflect long-standing misunderstanding (e.g., astrology, hypnosis).

Previous studies also suggested that completion of an introductory course in psychology does not greatly reduce the rate of belief in misconceptions (McKeachie, 1960 and Vaughn, 1977). Thus, the challenge for the field of psychology is to not only determine the variables that produce misconceptions, but also those variables that can effect a reduction in these false beliefs.

In a series of studies over the past several years we have examined the extent of psychological misconceptions, their strength, sources, and various factors that may contribute to reducing these, including individual differences. (See Kowalski & Taylor (under review), Taylor & Kowalski (in press) and Taylor, Kowalski, Negin, & Heise, 2001.)

Generally, introductory psychology students come into the course with many popular misconceptions. These misconceptions most commonly originate primarily from media sources, personal past experiences, and (sadly) from previous classes.

In this presentation I will first tell you a few words about this study in general. Next, some details about specific sources about this year's top 10 media-based

misconceptions will be covered. Then, the presentation will conclude with some advice on an effective technique we have used in the classroom to dispel misconceptions.

Method

Participants

The sample included 92 introductory psychology students, mostly women, mostly traditional college freshmen. These participants completed both a pretest and posttest.

Materials

Over several previous studies we developed a 42-item true/false pretest questionnaire for which half of the items are phrased such that a 'true' response is correct and half such that a 'false' response is correct. This same questionnaire was used at posttest, however, each participant received a reversed form of the questionnaire: items that were phrased to be true, were now phrased to be false, and vice versa. For example, if an item at pretest read, "Eyewitness testimony is often reliable." then the posttest item read, "Eyewitness testimony is seldom reliable."

Participants rated their confidence in each answer on a 1-10 scale from 'not at all confident' (guessing) to 'very confident' (absolutely sure).

They were also asked to note, as specifically as possible, where they had learned the information with as much detail as possible.

Procedure

Students completed the pretest on the first day of class in the Fall 2002 semester and the posttest was completed during the last week of class.

Results

The Top 10 Media-Based Misconceptions

For convenience, all of the misconceptions are written here in their 'false' format. Thus, a 'false' response is the correct response.

Only performance on the first day of class is reported here. This seems appropriate in this description of the sources of misconceptions because pretest performance reflects the information students brought with them to the introductory class. Of note also is that while many individuals mentioned multiple sources for their beliefs they were instructed to list them in the order of their importance to the formation of the belief. The results presented here reflect only the primary source.

1.) The insanity defense is often used in criminal cases. Only 13% correct at pretest. Sources: TV news, CSI, Court TV, newspaper, trials on TV, Dateline NBC, court cases, TV

shows.

2.) **Subliminal messages can motivate peoples' behavior without their awareness.**

17% correct at pretest. Sources: advertising, TV talk show, TV show, TV.

3.) **The suicide rate is higher among adolescents than among any other age group.**

22% correct at pretest. Sources: TV news; teen magazine

4.) **ESP (extrasensory perception) has been documented.**

27% correct at pretest. Sources: movies, TV, magazine articles, TLC channel.

5.) **Listening to Mozart will enhance your intelligence.**

27% correct at pretest. Sources: TV: 60 Minutes, daily news, radio: NPR, TV, TV news.

6.) **Hypnosis is extremely useful in helping witnesses recall details of crimes.**

30% correct at pretest. Sources: news, Court TV, TV show, crime shows, newspaper.

7.) **A well-trained psychotherapist can establish a person's true thoughts and problems by analyzing dreams.**

33% correct at pretest. Source: TV in general.

8.) **The characteristic feature of Tourette's Syndrome is swearing & cursing.**

35% correct at pretest. Sources: magazine article, movies.

9.) Eyewitness testimony is usually reliable.

37% correct at pretest. Sources: TV, various news programs, court cases, trials on TV, convictions covered on TV.

10.) Polygraph (lie detector) tests can accurately identify attempts to deceive.

55% correct at pretest. Sources: movies, NYPD Blue, news, TV shows, TLC Channel.

Concluding Remarks

Participants could attribute their knowledge to many sources. In this presentation I have only shown you the misconceptions with the lowest accuracy rates, when the source of the information was attributed to a media source. Of course, there were other misconceptions attributed to other sources (personal experience was a popular source of misinformation).

Recall that we also asked the students to rate their confidence in their answers. Of greatest interest is that whenever 'media' was listed as the source, mean confidence was lower than for other sources, including the 'don't remember where I learned this' response, which had the highest response rate overall. This suggests that students take the media information with a grain of skepticism—probably a healthy event given the low rate of accuracy

when knowledge was based on media sources!

Because we have been examining the various variables that affect the formation of false conceptions of psychology over several years now, we have noted that confidence levels rose over each of the past years. Thus, the degree of skepticism attributed to media-based information may be changing.

We are also interested in ways to reduce misconceptions in the classroom. In this vein, we 'targeted' about half the items, defined as covered both in the text and lecture in a refutational format. In lecture, the misconception and the evidence for correct information were provided immediately sequentially in this refutational format. In addition, supplemental readings or readings directly in the text were provided in this format at times. Based on findings in the education literature we expected this intervention to reduce misconceptions.

Indeed, at posttest, targeted items showed significant change scores, whereas the non-targeted items did not. Thus, it does appear that misconceptions can be changed by using the same techniques that are more commonly referred to in the educational literature under the heading of conceptual change.

Finally, the good news from our research is that we

showed substantial and significant reductions in misconceptions from pretest to posttest. Our finding is in contrast to previous findings reviewed in the introduction and provide educators with the needed confidence to address those issues which are most frequently misunderstood.

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